

CLAIMS

1. A process for producing a polymetaphenylene isophthalamide porous hollow fiber membrane, characterized by extruding a film-forming solution comprising polymetaphenylene isophthalamide, polyvinylpyrrolidone and an inorganic salt through a concentric double annular spinning nozzle, while keeping the film-forming solution at 70°C or higher, thereby conducting dry-and-wet spinning, followed by moisture retention treatment.

2. A process for producing a polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 1, wherein the film-forming solution comprises 12 to 35 wt.% of polymetaphenylene isophthalamide, 4 to 10 wt.% of polyvinylpyrrolidone and 4 to 10 wt.% of an inorganic salt, the balance being an aprotic polar solvent.

3. A process for producing a polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 1 or 2, wherein the polyvinylpyrrolidone has an average molecular weight of 20,000 to 100,000.

4. A process for producing a polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 1 or 2, wherein the inorganic salt is calcium chloride or a mixture of calcium chloride and lithium chloride.

5. A process for producing a polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 1, wherein the resulting porous hollow fiber membrane obtained by the dry-and-wet spinning is subjected to heat treatment in water at 80°C or higher before moisture retention treatment.

6. A process for producing a polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 5, wherein the heat

treatment is carried out in water at 80° to 121°C.

7. A polymetaphenylene isophthalamide porous hollow fiber membrane produced by a process according to Claim 1 or 5.

8. A polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 7, wherein the porous hollow fiber membrane resulting from the wet heat treatment under wet heat conditions at the temperature of 100°C and the humidity of 80% for 1,000 hours or more has a strength at break of 10MPa or more and a elongation at break of 80% or more, the elongation at break keeping at least 80% as high as that before the wet heat treatment.

9. A polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 7 for use as a humidifying membrane.

10. A polymetaphenylene isophthalamide porous hollow fiber membrane according to Claim 9 for use as a humidifying membrane for polymer electrolyte fuel cells.